# Rosemary Elliott Smith

*Curriculum Vitae*

*University of Chicago*
✉ *relliottsmith@me.com*

Masters of mathematics with interests in smooth dynamics, measure classification theorems, and a (random) assortment of other topics.

## Education

2018– **Graduate Student in Mathematics**, *pursing a PhD under the supervision of Alex Eskin and Amie Wilkinson*, University of Chicago.

2014–2018 **Mathematics Major, *cum laude***, *Revelle College*, University of California, San Diego.

2008–2014 **High School**, *Monte del Sol Charter School*, Santa Fe, NM, *SAT: 2320 (National Merit Finalist)*.

## Professional Experience

September 2020– **Instructor**, *Mathematics Department*, University of Chicago.

Acted as the instructor of record for undergraduate courses on topics ranging from linear algebra to basic calculus to financial optimization.

September 2019–June 2020 **Graduate Teaching Assistant**, *Mathematics Department*, University of Chicago.

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Summer 2019 **Applied Research Mathematician**, *National Security Agency*.

Possessed Top Secret (TS)/Secure Compartmented Information (SCI) security clearance, with background investigation and full scope polygraph. Conducted research on blockchain technologies and crypto currencies.

January 2018–June 2018 **Teaching Assistant**, *Mathematics Department*, UC San Diego.

Acted as a teaching assistant to a variety of mathematics courses, both lower and upper division, including abstract algebra. Professors: Todd Kemp, Alireza Golsefidy-Salehi

Summer 2017 **Researcher**, *Collaborative Research Experience for Undergraduates (CURE), Kemp Lab*, UC San Diego.

Researched random matrix theory, free probability, and facets of combinatorics as part of the CURE program. Our project proved extremely productive, and produced original and publishable research, currently in preparation for publication. CURE is a program designed to facilitate collaborative mathematics research by undergraduates, better preparing and motivating them for graduate school. Mentor: Todd Kemp, Associate Professor of Mathematics at UC San Diego.

January 2015–December 2017 **Head Database Developer**, *Levantine Cyber-Archeology Lab*, UC San Diego.

Leader of a group of programmers developing the UCSD cyber-archaeological database, under a UC Office of the President Catalyst Grant. Mentor: Thomas Levy, Distinguished Professor of Anthropology at UC San Diego.

January 2015–June 2018 **Undergraduate Researcher**, *Meyer Lab*, UC San Diego.

Undergraduate research studying the correlations between traditional music and the geography of its location of origin. Mentor: David Meyer, Professor of Mathematics at UC San Diego.

Summer 2016 **Staff and Lead Programmer**, *Greek Excavation: Cyber-Archeology Field School*, UC San Diego and University of the Aegean.

Head programmer at excavation of a Mycenaean tomb in Desfina, Greece. Mentor: Thomas Levy, Distinguished Professor of Anthropology at UC San Diego.

Summer 2015 **REU Researcher**, *The Santa Fe Institute*.

Complex Auditory Scene Analysis and Ethnomusicology research as a facet of an ongoing project. Mentor: Doctor Tanmoy Bhattacharya, Scientist 5, Los Alamos National Laboratory and External Faculty at Santa Fe Institute.

Summer 2014 **Intern**, *The Smithsonian Institution*, Washington D.C..

Responsible for writing species accounts describing extinct organisms in the museum's new Deep Time exhibit. Mentor: Doctor Kate Lyons, Curator of Quaternary Mammals at the U.S. National Museum of Natural History (Smithsonian Institution).

## Honors and Awards

- National Physical Sciences Consortium Fellowship, $120,000 (2018-)
- Mathematics Undergraduate Employee of the Year (2018) (for excellence in teaching)
- UCSD Physical Sciences Dean's Undergraduate Award for Excellence, $1000 (2017)
- UCSD Revelle College Norris Award Recipient (2017) (for excellence in the humanities)
- Ernest Mort Revelle Student Leadership Award Recipient (2017)
- United States Presidential Scholar Candidate (2014)
- National Merit Finalist (2014)
- Century Bank Super Scholar (2014)
- Prize for Scientific Excellence, the Santa Fe Institute $500 (2014)
- Los Alamos National Laboratory Employees' Scholarship Fund Bronze Scholar, $4000 (2014)
- AP Scholar with Distinction (2014)
- AP Scholar with Honors (2013)
- Ventures Scholar (2013)
- National Hispanic Recognition Scholar (2013)
- National Honor Society Member (appointed 2013)

## Grants

Frontiers of Innovation Scholars Program, Exploring the Basis of Human Knowledge, Learning and Creativity: *Music from a Map; the Relation of Sound Characteristics to Geography.* **R.E. Elliott Smith**, recipient; D. Meyer, mentor. (January, 2016-January, 2017). $4,000.

Frontiers of Innovation Scholars Program, Understanding Cultures and Addressing Disparities in Society: *Greece Expedition.* **R.E. Elliott Smith**, recipient; T. Levy, mentor. (January, 2016-January, 2017). $4,000.

## Publications

### Mathematical:

**R.E. Elliott Smith**. "Paper with a title" *Preprint*

**Elliott Smith, R.E.**, H. Huang, T.A. Kemp, Y. Ling, X. Luo, E. Lybrand, and J. Wang. Random Matrices with Independent Diagonals. *Preprint.*

### Other:

Smith, F.A., **R.E. Elliott Smith**, S.K. Lyons, and J.L. Payne. "Body size downgrading of mammals over the late Quaternary." Science 360, no. 6386 (2018): 310-313.

Smith, F.A., **R.E. Elliott Smith**, S.K. Lyons, and A. Villaseñor. The accelerating influence of humans on mammalian macroecological patterns over the late Quaternary Invited manuscript, Quaternary Science Reviews 211, (2019): : 1-16.

## Presentations

**R.E. Elliott Smith**, C. Breeze, T. Harman, F. Reece, A. Gupta, B. Liss, M.M. Burton, and T.E. Levy. 2017. ArchaeoSTOR: A User-Friendly Archaeological Database. Computer Applications and Quantitative Methods in Archaeology Annual Conference 2017, Atlanta, Georgia.

Smith, F.A., **R.E. Elliott Smith**, and S.K. Lyons. 2016. The increasing influence of humans on mammalian macroecology patterns.Geological Society of America 2016 Annual Meeting, Denver, Colorado.

**R.E. Elliott Smith**, C. Breeze, and T. Harman. 2016. At-Risk Cultural Heritage and Archaeological Data Management – the ArchaeoSTOR Solution. Frontiers of Innovation Scholars Program Symposium, San Diego, California.

**R.E. Elliott Smith**. 2016. Music from a Map: The relation of sound characteristics to geography. Frontiers of Innovation Scholars Program Symposium, San Diego, California.

**R.E. Elliott Smith**, C. Breeze, and T. Harman. 2016. ArchaeoSTOR: A User-friendly Archaeological Database. 29th Annual Undergraduate Research Conference 2016, San Diego, California.

**R.E. Elliott Smith**. 2015. Balancing Music from a map: the relation of sound characteristics to geography. Santa Fe Institute, Research Experience for Undergraduates Final Presentation, Santa Fe, New Mexico.

## Service

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| September 2022 | **Orientation Organizer**, University of Chicago.<br>elected to the role of graduate student ombudsperson and served in that position for two years, handling a variety of issues from minor ADD INTERFACING WITH FACULTY. |
| Summer 2022 | **Seminar Organizer**, University of Chicago.<br>co-organized a dynamics student seminar in the summer of 2022 |
| May 2019–September 2021 | **Ombudsperson**, University of Chicago.<br>co-organized the graduate student orientation in 2022 (WOMP 2022), a week long event intended to introduce new students to the department. ADD THE MATH ORGANIZATION REQUIRED. |

## Teaching

- Math 131 (Fall 2020)
- Math 133 (Spring 2021)
- Math 153 (Fall 2021)
- Math 196 (Spring 2022)
- Math 15250 (Fall 2022)

## Technical and Personal skills

- **Programming Skills:** Fluent in Java, Python, Ruby, Ruby on Rails, HTML, SQL, and R. I have a functional knowledge of C++, Julia, JavaScript, Matlab, Mathematica, and C.
- **Foreign Languages:** I am passably fluent in Japanese and have a rudimentary understanding of Arabic.
- **Interpersonal Skills:** I work well in a team, have extensive leadership experience, and am able to well-articulate and communicate ideas and concepts.
- **Writing Skills:** I am a proficient writer and have written two successful grant proposals.

## Interests and extra-curricular activity

- Poetry and Literature: I am a hobbyist poet and an avid reader of classic literature, poetry, fantasy, and philosophy. Among my favorite authors are Ginsberg, Neruda, Kant, and Voltaire.
- Archery: I am a serious student of archery, with a focus in Olympic style target archery. I was a member of the competitive archery team at UCSD.
- Martial Arts: I hold a black belt in Hapkido, a Korean Martial Art, and have acted as Assistant Instructor since summer 2013.